Klamath/North Coast Bioregion

The Klamath/North Coast Bioregion in California's northwestern corner extends roughly one-quarter of the way down the 1,100-mile coast and east across the Coastal Range and into the Cascades. This bioregion is famous for its rocky coastline, salmon fishing, and lush mountain forests of spectacular ancient redwoods and Douglas fir. Redwood National Park and numerous state parks, rivers, wilderness areas, and four national forests are in this bioregion.

Location, Cities, People

Ten counties make up the Klamath/North Coast Bioregion: Del Norte, most of Siskiyou, Humboldt, Trinity, Mendocino, Lake, and the northwestern portions of Shasta, Tehama, Colusa, and Glenn. Its boundaries are the Oregon border on the north, and the southern borders of Lake and Mendocino counties on the south. Despite the huge size of this bioregion, its population is only about 332,000 according to 1990 census figures. The bioregion extends from the Pacific Coast eastward more than halfway across California to the Modoc Plateau and the Sacramento Valley floor. The Hoopa Valley, Yurok, Karok, Paiute-Shoshone, and Pomo-Kato Indians are native to various parts of this bioregion.

The largest cities are Redding — a Northern California crossroad on Interstate 5 — and Eureka, a Humboldt County seaport. Smaller cities include Clearlake, Ukiah, Arcata, Fort Bragg, Yreka, Mendocino, and Crescent City. Tiny hamlets with whimsical names like Hayfork, Honeydew, Ferndale, and Happy Camp capture the rustic, pastoral nature of this bioregion and its people.

Tourist Attractions, Industries

Along the coast, redwood trees hundreds — even thousands — of years old are a cherished natural resource and major tourist attraction. These hushed forests of towering giants and damp, fern-covered floors possess the ethereal splendor and serenity of a cathedral. They are home to the endangered marbled murrelet, a seabird that nests in old-growth, and the threatened northern spotted owl, whose decline prompted severe reductions in federal timber harvest sales to preserve its habitat. Listing of the owl under the federal Endangered Species Act and other 1990s economic impacts upon the once-booming timber industry forced closure of many sawmills and dislocation of workers. Traditionally timber-dependent communities, forced to diversify their economies, are encouraging the growth of tourism, improving infrastructure, and seeking ways to attract and accommodate new businesses. Cattle ranching, dairy farming, and fishing are popular traditional industries of the bioregion.

Climate, Geography

Much of the Klamath/North Coast Bioregion is covered by forest — the Klamath, Shasta-Trinity, Six Rivers, and Mendocino National Forests, Jackson State Forest, and private forests, including the famous Headwaters ancient redwood forest in Humboldt County. This mountainous bioregion includes the North Coast Range and the Klamath, Siskiyou, Marble, Salmon, Trinity, and Cascade mountains. The Klamath/North Coast is the state's wettest climate, with rainfall distribution varying widely from an average annual 38 inches at Fort Bragg to 80 or more inches in the King Range National Conservation Area. The coastal climate is cool, moist, and often foggy, with rainy winters at lower elevations and snow in the higher mountains. Inland the climate is drier with low rainfall in winter and hot, dry summers.

Major rivers include the Eel, Trinity, Klamath, Russian, Smith, Salmon, Scott, Mad, and Mattole, which flows into the Pacific Ocean near seismically active Cape Mendocino. Clear Lake, Whiskeytown Lake, Clair Engle, and the western part of Shasta are the largest lakes in the bioregion.

Plants, Wildlife
Vegetation includes mixed conifer habitat of white fir, Douglas fir, ponderosa pine, Sierra lodgepole pine, incense cedar, sugar pine, red pine, Jeffrey pine, mountain hemlock, knobcone pine, western red cedar, red alder, redwood, tanoak, Pacific madrone, and chaparral.

Wetlands provide places for resting, nesting, feeding and breeding for native and migrating birds and waterfowl. Wildlife in the bioregion includes deer, fox, black bear, mountain lion, California clapper rail, Aleutian Canada geese, Roosevelt elk, osprey, fisher, bank swallow, Coho salmon, king salmon, otis blue butterfly, bald eagle, Point Arena mountain beaver, Swainson's hawk, willow flycatcher, western sandpiper, and Oregon silverspot butterfly. Rare species include northern spotted owl, marbled murrelet, American peregrine falcon, Lotis blue butterfly, Trinity bristle snail, red-legged frog, Siskiyou Mountains salamander, Pacific fisher, Del Norte salamander, Karok Indian snail, wolverine, goshawk, and Chinook salmon.

Rare plants include Sebastopol meadowfoam, Burke's goldfields, Humboldt Bay owl's clover, Calistoga ceanothus, Baker's navarretia, coast lily, swamp harebell, Tracy's sanicle, Snow Mountain willowherb, marsh checkerbloom, pale yellow stonecrop, Scott Mountain phacelia, McDonald's rock cress, Klamath Mountain buckwheat, Oregon fireweed, Adobe lily, dimorphic snapdragon, Colusa layia, Indian Valley brodiaea, and Stebbins' lewisia.

For a complete list of the Klamath Bioregion's federal and state endangered, threatened and rare species, please refer to the chart at the end of this bioregional section.

CURRENT CONSERVATION INITIATIVES

*County government leaders in Northern California have organized a cooperative **Five Counties Salmon Conservation Plan** that lays out a coordinated strategy and pooling of resources to protect and restore anadromous salmonid fisheries habitat.*

The "Five County" effort is a cooperative venture between Del Norte, Humboldt, Mendocino, Siskiyou, and Trinity Counties. Working in coordination with State and federal officials, county supervisors and their staff have developed and our now implementing a formal Work Plan for the protection and restoration of anadromous salmonid fisheries habitat within the Transboundary Evolutionary Significant Units (ESU) watersheds of the five counties. Implementation of the Work Plan will result in a comprehensive review and coordination of county level land use regulations and practices.

The effort will be used to document the effectiveness of existing regulations and, where appropriate, develop alternative policies, ordinances, and practices that provide development standards that are suitable to maintain, or enhance anadromous Salmonid habitat. The plan will address the need to target public work projects that enhance fisheries restoration based on benefits within the watersheds, even where such watersheds cross county boundaries. Actions already underway across the five county region include:

- hiring a regional county coordinator based in Trinity county;

- reviewing and assessing all relevant county ordinances;

- evaluating county road and facilities management practices;

- developing new fish-friendly policies, incentives, and land use practices;

- prioritizing watersheds for restoration grant funding; and

- developing grant sources for restoration activities on county roads and other lands.

For more information contact: Mark Lancaster, Trinity County Planning Department at (916) 623-1351.

*The 1,485 square mile **Russian River Basin** is located approximately 65 miles north of San Francisco, along the Northern California Coast. Traditional land uses in the watershed basin are giving way to high impact uses such as vineyards, and urban and suburban growth. These uses are creating problems for the health of the river's ecosystem.*

More than forty-five organizations are involved in improving the ecological health of the watershed. These organizations are scattered throughout the watershed and, while each is aimed at achieving the specific goal of salmonid protection and restoration in the Russian River Basin, a coordinated effort is needed to help avoid duplication, assure that individual actions are consistent with a broader mission, and provide cooperation between all of the groups.

The California Department of Conservation created the Russian River Basin Planning and Restoration Project, a process to bring together the multitude of organizations and the public to develop a management plan for the watershed that would build on existing stewardship programs and foster additional local efforts. The effort requires state and federal entities to coordinate and commit to supporting community-based watershed management activities within the Russian River watershed and to work toward the following goals:

- coordinate the state's actions to ensure the timely, efficient, and responsible delivery of resources to community-based efforts;

- ensure that the state's actions in the watershed are coordinated with action of local and federal governments;

- respond to, support, and respect the needs and rights of local governments and interested parties in the community; and

- support and substantively contribute to the development of a local/state/federal cooperative Russian River Watershed Stewardship Program which will provide certainty and predictability to the regulated public, address community needs, and protect important natural resource values which will result in meeting the regulatory mandates in the state and federal endangered species acts and Clean Water Act

The Department of Conservation is working with a team composed of representatives from the California Resources Agency; California Environmental Protection Agency; the California departments of Food and Agriculture, Forestry and Fire Protection, Fish and Game, and Water Resources; State Coastal Conservancy; California Energy Resources, Conservation, and Development Commission; State Lands Commission; State Water Resources Control Board; North Coast Regional Water Quality Control Board; and others.

For more information contact: Cathy Bleier, Russian River Coordinator, California Department of Conservation at (916) 322-9721.

*The **Shasta River Coordinated Resource Management Plan** is a coordinated management plan that includes innovative recommendations for salmon restoration whereby the river is allowed to run "unimpaired" long enough for salmon to find their way downstream. The effort is a successful example of how resource managers and landowners can work together to provide a healthy riparian river habitat without negatively impacting the production requirements of working ranch and farmlands.*

In the 1930s, Fall Chinook salmon numbers in the Shasta River were well over 80,000. In the early 1990s, these numbers had dropped to as lows as 530 fish returning from the ocean to spawn. Concerns about the imminent loss of the entire run prompted the Shasta Valley Rural Conservation District to mobilize key landowners to form a proactive sub-committee, the Shasta Coordinated Resource Management and Planning Group (CRMP), to develop ways to manage the problem without negatively impacting other water users in the watershed.

The initial group consisted of representatives for the ranching and farming community, irrigation districts, and key state and federal agencies. Their goal was to protect the existing agricultural uses of the Shasta Valley by restoring the salmon and steelhead runs in the Shasta River. In 1991, the Shasta River CRMP began working on improving conditions that would favor salmon returns.

One of the group's more remarkable accomplishments has been their program of "Unimpaired Flows" designed to stimulate salmon outmigration before water temperatures in the Shasta River become lethal. The program

began in 1992, after several fieldworkers of the California Department of Fish and Game and CRMP noted hundreds of small salmon jumping over many miles of the Shasta River. The feeding activity continued for many weeks until several hot clear days made river temperatures rise. Suddenly there were no salmon to be found. The fieldworkers, recognizing that salmon production declined when river temperatures rose too high, began wide-ranging discussions about what might be done to maintain river temperatures at a level cool enough to insure salmon health and reproduction rates.

Out of those discussions came the suggestion for unimpaired flows: two periods of two days each when everyone using irrigation water from the Shasta River shuts down their pumps, removes the flashboards from their dams, and lets the river run "unimpaired' long enough for any salmon interested in leaving to find their way downstream. The Shasta CRMP Coordinator, assisted by personnel from the California Department of Fish and Game, has contacted three irrigation district boards, numerous individual, and group irrigators to ask their assistance and voluntary cooperation in the effort. As a result, voluntary participation has continued to increase and together participants watch, wait, and cease irrigation so that the fish can migrate.

For more information contact: Dave Webb, Shasta River CRMP Coordinator at (530) 926-2460.

*The primary goals of **the Eel River Action Plan** are to halt the long term decline in salmon and steelhead populations within the Eel River basin and to significantly increase those fish populations.*

The Eel River is the third largest producer of salmon and steelhead in California. However, salmon and steelhead abundance has been declining throughout this century. Most of the long-term reduction is attributable to loss or degradation of habitat caused by human activities including logging, mining, road construction, dam construction, grazing, cultivation, residential development, urbanization and water diversions.

In order to address the decline of salmonids in the Eel River basin, the California Department of Fish and Game (DFG) created a program for DFG staff to live in the basin and work with the landowners to restore private lands in the watershed. As a result of this "landowner to landowner" approach, over 2,000 landowner have been introduced to restoration issues on the river, and over 1,800 landowner have granted DFG permission to survey their streams and to plan restoration projects on their lands.

From these meetings, restoration efforts are being started on private lands throughout the basin. DFG is also hosting an ongoing series of forums and workshops to solicit ideas and concerns from the basin's landowners, managers, and other resource users. This information, in addition to field assessment data, is part of the Eel River Action Plan, the primary goals of which are to halt the long-term decline of salmon and steelhead and significantly increase fish populations.

Efforts to improve fisheries in the Eel River Basin have provided many valuable lessons. One of the most important is that interagency cooperation and private landowner stewardship is essential to any successful project. Eighty-six percent of the Eel River watershed is held in private ownership. Without the cooperation of the landowners and managers, a meaningful fishery restoration or enhancement program would not have been possible.

For more information contact: Karen Kovacks, California Department of Fish and Game at (707) 441-5789.